

What is claimed is:

1. A method of manufacturing a thin-film magnetic head, the head comprising:

a medium facing surface that faces toward a recording medium;

5 a first pole layer and a second pole layer that are magnetically coupled to each other and that include magnetic pole portions opposed to each other and located in regions of the pole layers on a side of the medium facing surface;

a gap layer provided between the pole portion of the first pole layer and the pole portion of the second pole layer; and

10 a thin-film coil, at least part of the coil being disposed between the first and second pole layers and insulated from the first and second pole layers, wherein:

one of the pole layers incorporates a track width defining layer; and

15 the track width defining layer includes: a track width defining portion having an end located in the medium facing surface and the other end located opposite to the medium facing surface; and a wide portion coupled to the other end of the track width defining portion and having a width greater than a track width, the method comprising the steps of:

forming the first pole layer;

20 forming the thin-film coil on the first pole layer;

forming the gap layer on the pole portion of the first pole layer; and

forming the second pole layer on the gap layer, wherein:

the step of forming one of the pole layers includes the step of forming the track width defining layer;

25 the step of forming the track width defining layer includes the steps of:
forming a resist layer;

exposing the resist layer to radiant energy so as to form a latent image corresponding to the track width defining layer in the resist layer;

forming a frame having a groove corresponding to the track width defining layer by developing the resist layer exposed; and

5 forming the track width defining layer by plating using the frame;

the step of exposing the resist layer includes:

a first exposure step of exposing the resist layer to radiant energy so as to form a first latent image in the resist layer; and

10 a second exposure step of exposing the resist layer to radiant energy so as to form a second latent image in the resist layer, the second exposure step being performed before or after the first exposure step;

the first latent image is made up of a first portion corresponding to the track width defining portion and a second portion adjoining the first portion and extending along at least part of a contour of the wide portion; and

15 the second latent image is intended for use in combination with the first latent image so as to form the latent image corresponding to the track width defining layer, and does not include a portion corresponding to the track width defining portion.

20 2. The method according to claim 1, wherein an amount of radiant energy per unit area applied to the resist layer in the first exposure step is greater than an amount of radiant energy per unit area applied to the resist layer in the second exposure step.

25 3. The method according to claim 1, wherein a portion of one of the first and second latent images is overlaid on a portion of the other.

4. The method according to claim 1, wherein:
the first pole layer defines a throat height; and
the second pole layer incorporates the track width defining layer.

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5. The method according to claim 4, wherein the track width defining layer is disposed on the gap layer that is flat.

6. The method according to claim 1, wherein the track width falls within
10 a range of 0.05 to 0.15 μm inclusive.

7. The method according to claim 1, wherein a length of the track width defining portion taken along a direction orthogonal to the medium facing surface falls within a range of 0.05 to 0.5 μm inclusive.